

Work Order ID 81400

March-14-12 7:47:52 AM

81400

Page 1

Item ID: D350-636-016

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 27/03/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/03/14 Tooling: _____ Date: _____

Run Start

NR1

QC: _____

Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3492	C
D4168	A
IIN-D350-636	I

100

100

DC

Document Control

DOCUMENT CONTROL

Memo

0.00

CHG 002

or chg 3
per ECN 12-542

depends on D4184-041
Rev - B or C?

12/05/10

for MLJ 12-5-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 81400

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Page 2

Item ID: D350-636-016

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N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Stop

NS2

Start Date: 13/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 27/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:		Stop	*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

110

110

Skidtubes

Skidtubes

Skidtubes

0.00

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Memo 0.00

I- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section R-R

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J

6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details).Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail K.
SECOND SIDE

8-Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

9-Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168

10-Weld D2744 Cap as per Dwg D4168 and QSI 004.Fill grooves in bend/left from bending as per QSI 004

A/R Aluminum Rod batch: m120164 BE 2/04/05

12/04/05

W/O: 81400

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12-4-9	150	Shaft need QC?	DP	12-4-9			

Part No: D350-636-016 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

160

Skidtubes

Skidtubes

0.00

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side) + Run on new wearplate holes to 0.375" (4 per side)

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168
(welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R Sikaflex-291 batch: 120813
exp. date: 12/08/13

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004
(welding instructions on sheet 8)

A/R Aluminum Rod batch: M20854

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D4168

12-04-09

Run on new wearplate holes to 0.375" (4 per side)

12/04/09

3/8/12-04-10

3/8/12-04-11

W/O:

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 81400***81400***

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Item ID: D350-636-016

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N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Stop

NS2

Start Date: 13/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 27/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D4168

12- C'bore section CH-CH

13- Deburr holes

→ B/kc 12/04/11

Pto →

***** FOR DELUXE SKIDTUBE IF APPLICABLE DRILL TOW RING
HOLE IN TUBE *****

170

170

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

S.7/4/117

Memo

0.00

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S.7/4/117

Memo

0.00

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D35D-636-016 PAR #: Fault Category: Landing gear/skid tam NCR: Yes DQA: Date: 14/05/14
 Resolution: Rework Disposition: Rework QA: N/C Closed: Date: 12/5/14

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial- Chief Eng	Action Description Chief Eng	Sign & Date			
12/04/11	100.12	Found at inspection that the 12" hole from aft is ovalized. Counter bore should be 0.313" measure .350"	CP 12.04.11 PB/ML	Drill out + Ream + bolt space Re work D470-1 82043 A/I R. m 120852	12-4-12 BE 12-04-13	CP 12.04.11 PB/ML	CP 12.04.11 PB/ML	CP 12.04.11 PB/ML
		PL. Counter bore back. Darn counterbore. Process	CP 12.04.11	Prints holes plus 3" to re counter bore as per drawing	CC/DP 12-4-16	CP 12.04.11	CP 12.04.11	CP 12.04.11

NOTE: Date & initial all entries

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Item ID: D350-636-016

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N900040100

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Start

NS1

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Stop

NS2

Start Date: 13/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 27/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Powder Coating

Memo

0.00

START TIME:

9:30

OVEN TEMPERATURE:

320°F

FINISH TIME:

10:00

210

QC3- Inspect Part Finish

0.00

210

QC

Quality Control

Memo

0.00

Inspect for foreign object per QSI 024

76/12-4-17

IX: ✓ M/F 12/4/18

1 ✓ 12-5-8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Item ID: D350-636-016

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N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Stop

NS2

Start Date: 13/03/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 27/03/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

270

270

Packaging

Packaging

0.00

IX

SP

Packaging

Memo

0.00

Identify and pack for shipping as per PPPD350-636-016

Location:

PPP rev: C

280

280

QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

12/15/10

MW 12/05/10

81400 RH

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Comments: IPP rev:A 10.09.28 new issue DD verf:EC
11.04.14 ecn11-553 DD verf:EC
per NCR 11-906 DD verf:EC

IPP Rev:B
IPP Rev:C 11.10.18 as

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1		Manufactured	No		160	Each	49.0000	4	4	**			
---------	--	--------------	----	--	-----	------	---------	---	---	----	--	--	--

D3490-1

Cross Bolt Spacer

Location	Loc Qty	Loc Code
LG001	49	
62450	2	
74875	4	
77042	3	
78793	40	

BE12/04/10

B81976 *4

D3490-3		Manufactured	No		160	Each	38.0000	4	4	**			
---------	--	--------------	----	--	-----	------	---------	---	---	----	--	--	--

D3490-3

Cross Bolt Spacer

Location	Loc Qty	Loc Code
LG001	38	
78800	38	

BE12/04/10

B82016 *4

AN3C34A		Purchased	No		230	Each	51.0000	1	1	**			
---------	--	-----------	----	--	-----	------	---------	---	---	----	--	--	--

AN3C34A ✕
BOLT

Location	Loc Qty	Loc Code
ST353	51	
116075✓	31	
117514	20	

20

12/05/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

AN3C36A

Purchased No

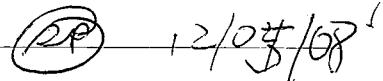
230 Each 158.0000

4 4

**

AN3C36A

BOLT

 12/03/08

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	4	
101261	4	
ST353	154	
116590	0	
119083	2	
119324✓	57	
120641	40	
121013	55	

AN3C37A

Purchased No

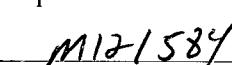
230 Each 110.0000

1 1

**

AN3C37A

BOLT

 M121584 P87

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST354	110	
116874	11	
117010	2	
120422	47	
120731	50	

AN3C42A

Purchased No

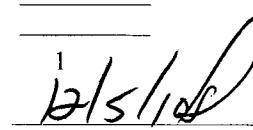
230 Each 43.0000

1 1

**

AN3C42A

BOLT

 12/15/12 SP

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST354	43	
106176	1	
118131	2	
119673	15	
120464	25	

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3488-042

Manufactured No

230

Each

19.0000

1

1

**

1 (20) 12/05/08

D3488-042

Blade Fitting Assembly, RH

Location	Loc Qty	Loc Code
FP002 82258✓	19	
62003	1	
75068	9	
77015	9	

D3492-1

Manufactured No

230

Each

130.0000

8

8

**

8 (20) 12/05/08

D3492-1

Plug

Location	Loc Qty	Loc Code
FP002 83098✓	130	
69531	8	
74444	2	
76235	20	
77037	100	

D3492-3

Manufactured No

230

Each

69.0000

8

8

**

8 (20) 12/05/08

D3492-3

Plug

Location	Loc Qty	Loc Code
FP-A	69	
78600	69	

83099✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

230

Each

228.0000

7

7

**

7 (2P) 12/05/08

D3873-1

Bushing

Location	Loc Qty	Loc Code
ST057 76791✓	182	
79561	182	
ST067	46	
64760	1	
68247	4	
73829	19	
73830	2	
79560	20	

D4154-041 *Rev. B*

D4154-041

Wearplate Assembly

Manufactured No

230

Each

2.0000

1

1

**

1 (2P) 12/05/08

D4170-1

D4170-1

Bushing

Manufactured No

230

Each

13.0000

4

4

**

882043 BE12/04/10

D4171-1

D4171-1

Bushing

Manufactured No

230

Each

9.0000

1

1

**

1 (2P) 12/05/08

Location	Loc Qty	Loc Code
LG001	13	
71844	5	
76677	8	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

MS21043-3

Purchased No

230

Each

840.0000

4

4

**

4
2P 12/05/08

Nut

MS21043-3

*

Should be 5 instead
of 4 *

Location	Loc Qty	Loc Code
FG	72	
103691	72	
GA	334	
120693	334	
ST301	434	
118077	2	
118614 ✓	382	
118686	30	
119758	20	

NAS1149C0363R

Purchased No

230

Each

3,381.000

9

9

**

9
2P 12/05/08

Washer

NAS1149C0363R

Location	Loc Qty	Loc Code
ST297	3381	
114742 ✓	3381	

NAS1515H3L

Purchased No

230

Each

184.0000

4

4

**

4
2P 12/05/08

*NAS1515H3L *

WASHER

Location	Loc Qty	Loc Code
FG 121243 ✓	40	
102472	40	
ST277	144	
118686	3	
119438	1	
120072	40	
120360	100	

121556 ✓

3
1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

209.0000

8

8

**

8

(SP)

12/05/08

NAS1611-010

O-RING

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP	121415✓	50
----	---------	----

	110915	0
--	--------	---

	120770	50
--	--------	----

FP001		159
-------	--	-----

	110915	14
--	--------	----

	117460	8
--	--------	---

	118077	1
--	--------	---

	118612	3
--	--------	---

	119438	47
--	--------	----

	120308	36
--	--------	----

	120986	50
--	--------	----

NAS1611-013

Purchased

No

230

Each

168.0000

8

8

**

8

(SP)

12/05/08

NAS1611-013

O-RING

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP001		168
-------	--	-----

	116582	5
--	--------	---

	117291	2
--	--------	---

	117887	53
--	--------	----

	119623	36
--	--------	----

	120360	22
--	--------	----

	120910	50
--	--------	----

121584✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-14-12 7:47:57 AM

Page 7

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0863J

Purchased No

250

Each

231.0000

2

2

**

NAS1149D0863.I

WASHER

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST298	231	
118078	36	
119307	95	
120308	100	

D2744

Manufactured No

110

Each

60.0000

1

1

**

D2744

Cap

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG002	60	
62715	1	
70881	10	
71861	7	
78900	42	

D2600-3-BENT

Manufactured No

110

Each

25.0000

1

**

D2600-3-BENT

Extrusion Bent

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	82347	
66875	7	
73253	1	
75021	1	
75022	1	
75023	1	
81330	14	

W/O:

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-14-12 7:47:57 AM

Page 8

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

160

Each

248.0000

8

8

**

D2743

Crossbolt Spacer

BE 12/04/10

B 81965 x3

Location Loc Qty Loc Code

LG001	248	
67766	4	
68251	3	
73403	64	
74445	1	
78603	76	
79517	100	

D2739

Manufactured No

160

Each

8.0000

1

1

**

D2739

350 I Beam

12/04/09

Location Loc Qty Loc Code

LG	82122	
72155	1	
80083	7	

ALS4-1032-225

Purchased No

230

Each

1,134.000

4

4

**

A1 S4-1032-225

Insert

12/05/08

Location Loc Qty Loc Code

ST281	121269	1021
108696	146	
110768	62	
118386	55	
118966	68	
120671	690	
ST282	113	
120410	100	
120451	13	

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

Picklist Print

March-14-12 7:47:58 AM

Page 11

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230

Each

136.0000

8

8

**

8 (P) 12/05/08***D2745***

Bushing

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP 81964 ✓	100	
79518	100	
FP001	36	
69529	1	
76142	1	
78597	34	

NAS1149C0832R

Purchased

No

230

Each

304.0000

1

1

**

1 (P) 12/05/08***NAS1149C0832R***

WASHER

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST297	304	
114915 ✓	304	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-14-12 7:47:58 AM

Page 12

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased No

230

Each

623.0000

4

4

**

4

(P)

12/05/08

AN3C6A

BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	1	
111982	1	
ST351	622	
111982	2	
116419	23	
116549	2	
116704	12	
117619	10	
117688	1	
117872	5	
118422	13	
119449	21	
120423	133	
120693 ✓	400	

MS21043-6

Purchased No

230

Each

809.0000

4

4

**

4

(P)

12/05/08

MS21043-6

NUT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	20	
103693	20	
ST301	789	
112314	83	
117887	6	
118384 ✓	200	
120308	500	

W/O:

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-14-12 7:47:58 AM

Page 13

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No 250 Each 66.0000 2 2 **

D3493-1

Washer

Location	Loc Qty	Loc Code
ST050	66	
70697	2	
77573	24	
78835	40	

MS21083C8

Purchased No 250 Each 85.0000 2 2 **

MS21083C8

NUT

Location	Loc Qty	Loc Code
FP002	1	
115884	1	
ST303	14	
115884	0	
118077	1	
119309	2	
119436	9	
119638	2	
ST304	70	
120142	20	
120731	25	
121011	25	

AN8C21A

Purchased No 250 Each 51.0000 2 2 **

AN8C21A

BOLT

Location	Loc Qty	Loc Code
ST343	51	
118758	5	
120094	42	
120872	4	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

March-14-12 7:47:58 AM

Page 14

Work Order ID: 81400

81400

Parent Item: D350-636-016

D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 13/03/2012

Required Date: 27/03/2012

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250

Each

37.0000

1

1

**

629516

12/5/9

D2741

Blade, 350 Skidtube

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST	-10	
ST466	47	
71856	1	
76984	36	

W/O:		WORK ORDER CHANGES				
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
D	1	1	1	D2739	WEB
	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1	1			D3488-041	BLADE FITTING, LH
	1	1	1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4	4	4	D3490-3	SPACER
8	8	8	8	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
	8	8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 81400 MLJ

12/03/14

RELEASED
2010-09-15

A	NEW ISSUE	SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

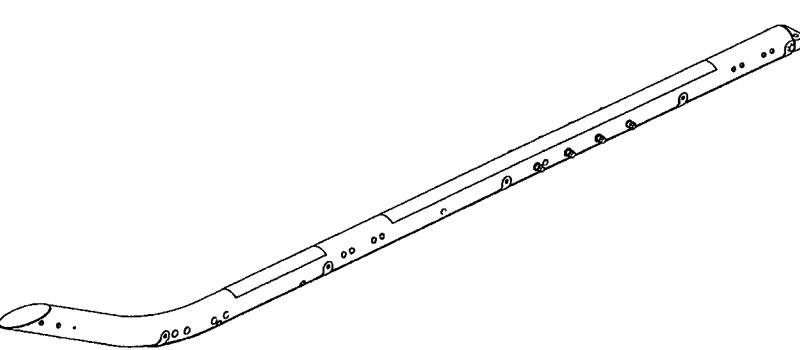
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

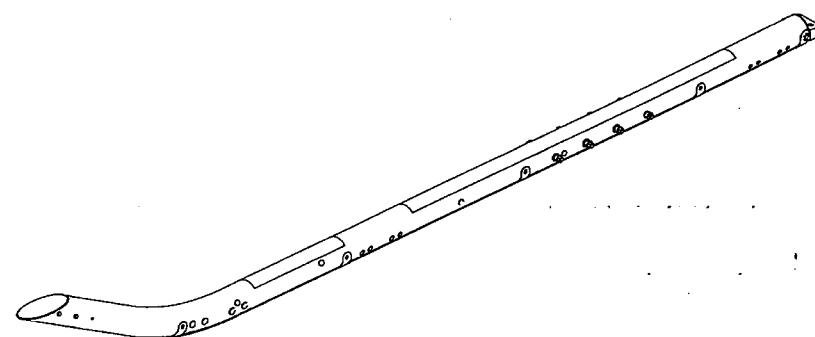
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2010-09-15
JM

DESIGN	SC	DART AEROSPACE USA, INC.
DRAWN	SC	PORT HADLOCK, WA
CHECKED		DRAWING NO.
MFG. APPR.		D4168
APPROVED		REV. A
DE APPR.		SHEET 2 OF 11
DATE	10.08.09	TITLE
		350 SKIDTUBE ASSEMBLY
		NTS

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8 7 6 5 4 3 2 1

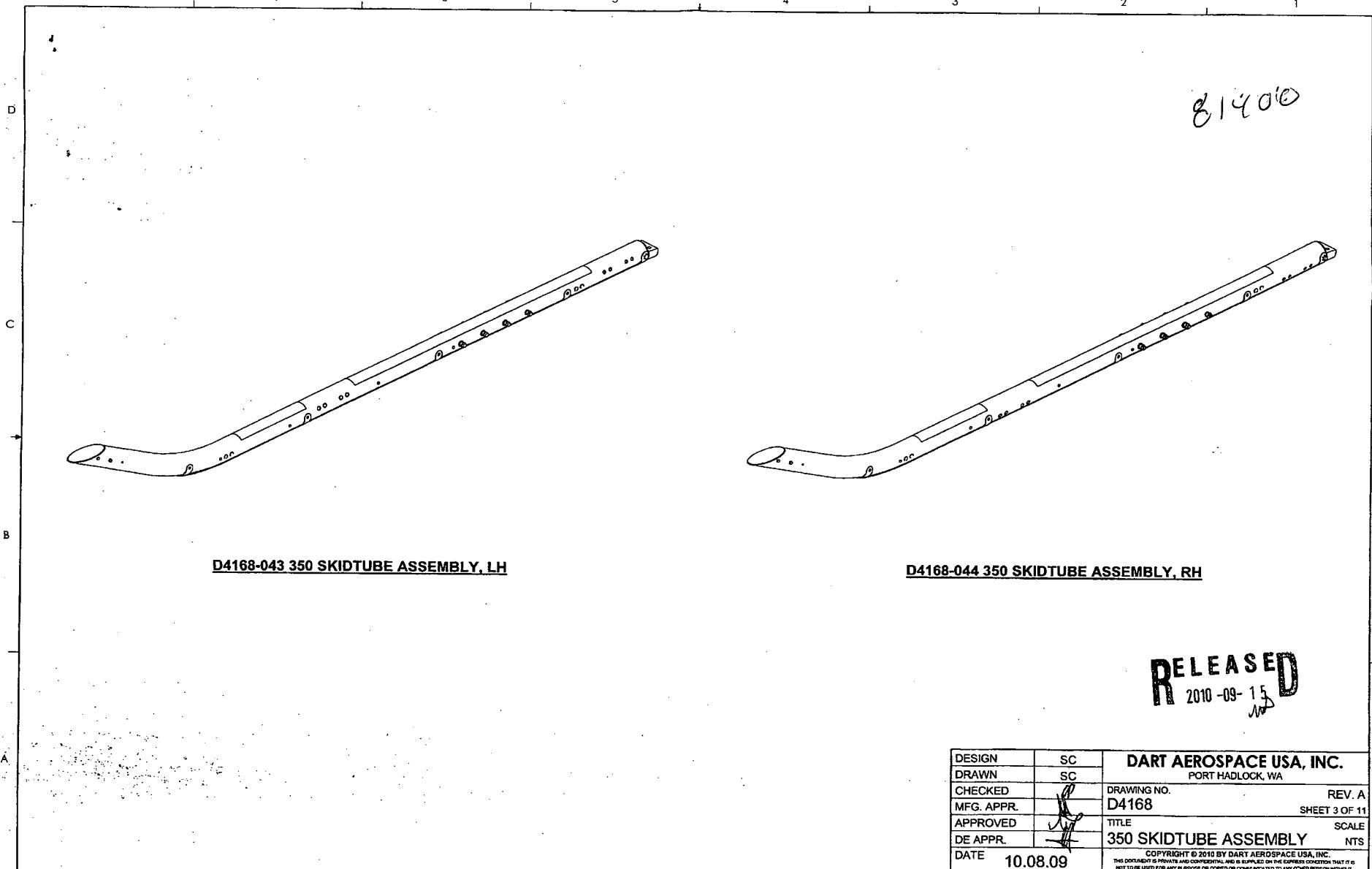
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



D4168-043 350 SKIDTUBE ASSEMBLY, LH

D4168-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2010-09-15
NP

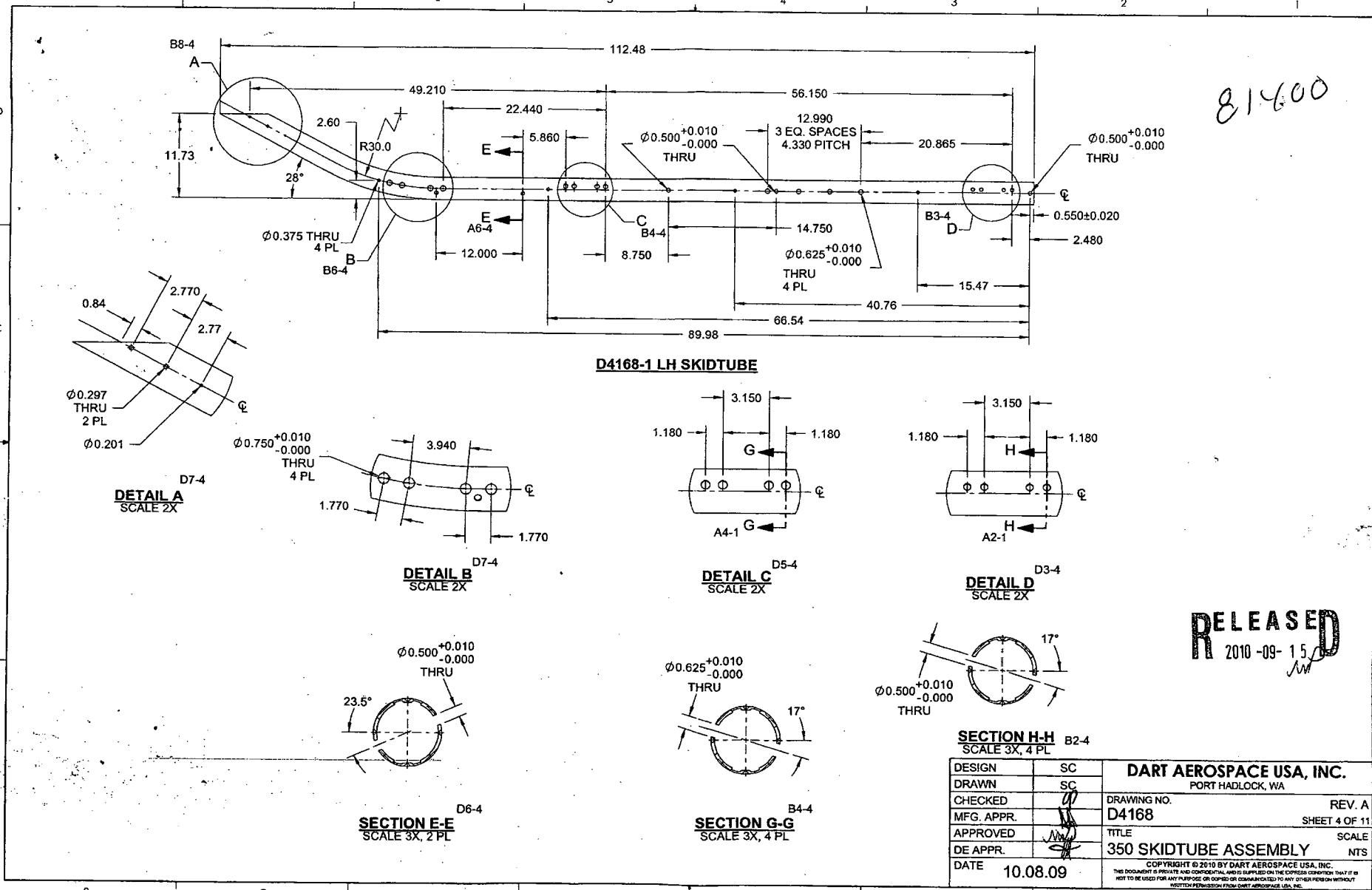
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DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>✓</i>	DRAWING NO.	
MFG. APPR.	<i>✓</i>	D4168	
APPROVED	<i>✓</i>	REV. A	
DE APPR.	<i>✓</i>	TITLE	
DATE	10.08.09	350 SKIDTUBE ASSEMBLY	
		NTS	
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NOTE: Date & initial all entries



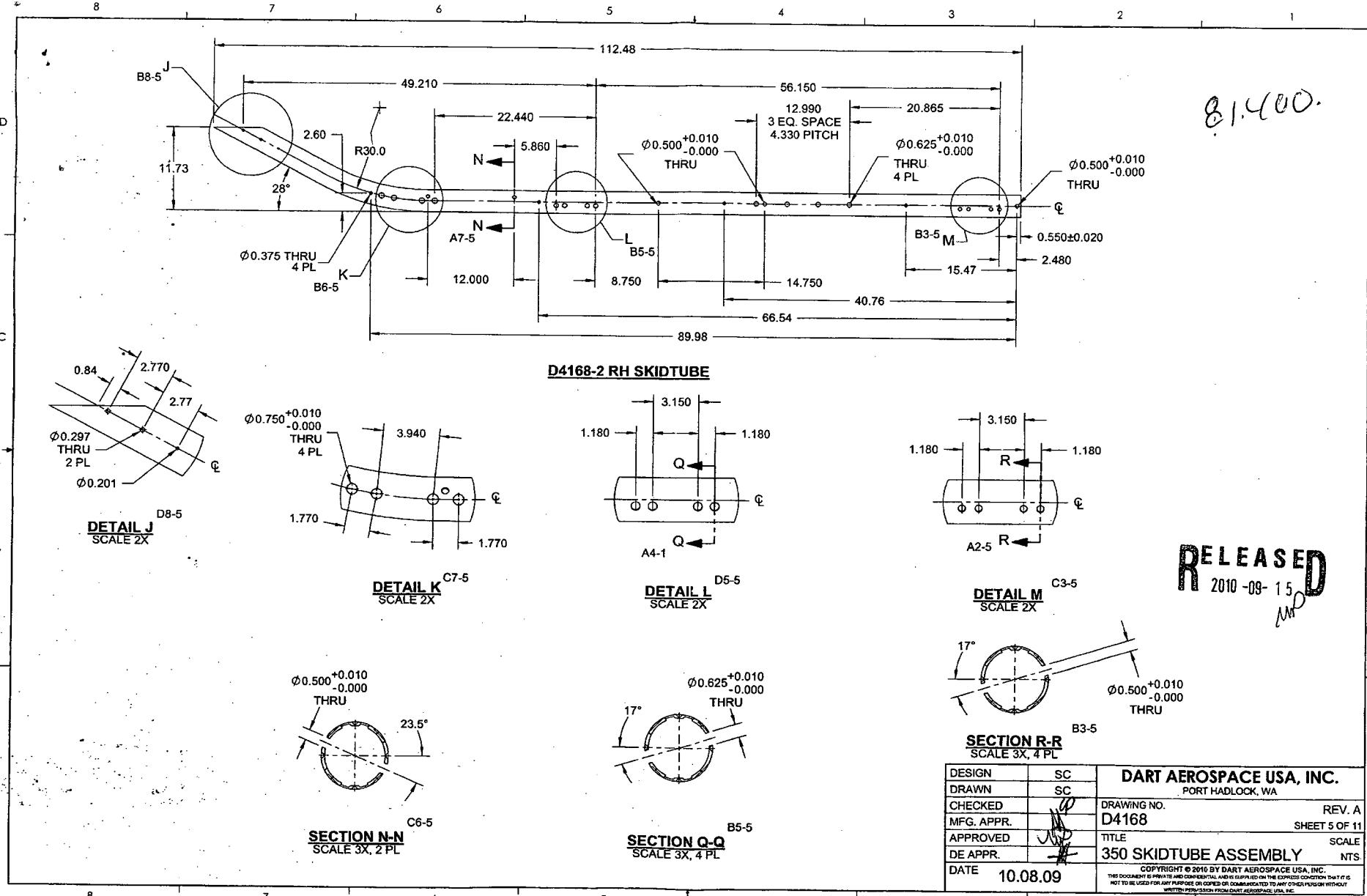
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DRAWN	SC	PORT HADLOCK, WA
CHECKED	SC	DRAWING NO.
	SC	D4168
MFG. APPR.	SC	REV. A
APPROVED	SC	SHEET 4 OF 11
DE APPR.	SC	TITLE
	SC	350 SKIDTUBE ASSEMBLY
DATE	SC	NTS
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W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



81.400

RELEASED
2010-08-15

2010-00-15

3-13

DESIGN	SC	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	<i>DP</i>	DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 5 OF 1
APPROVED	<i>JWD</i>	TITLE	SCALE
DE APPR.	✓	350 SKIDTUBE ASSEMBLY	
DATE	10.08.09	NTS	

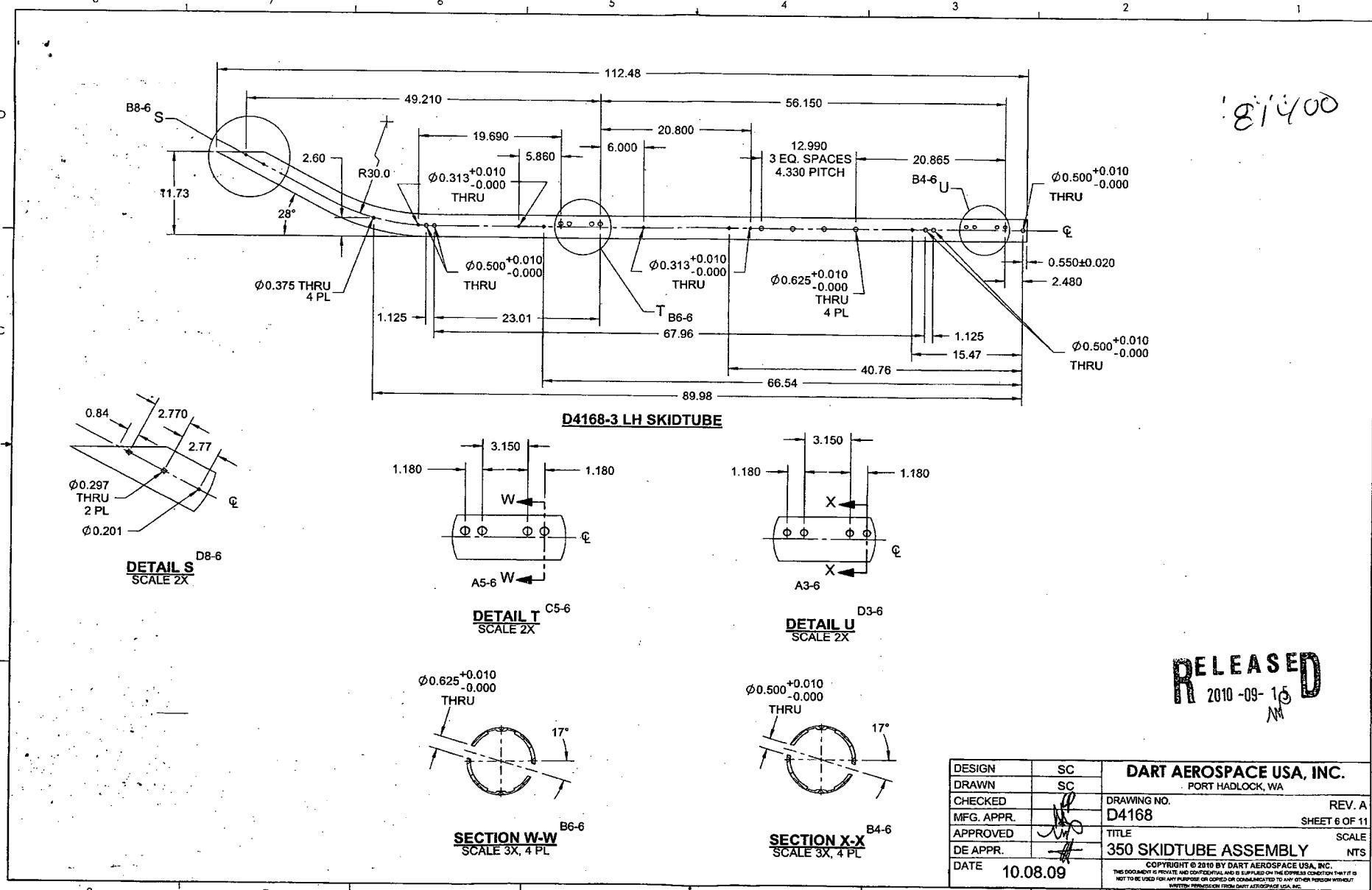
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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2010-09-15
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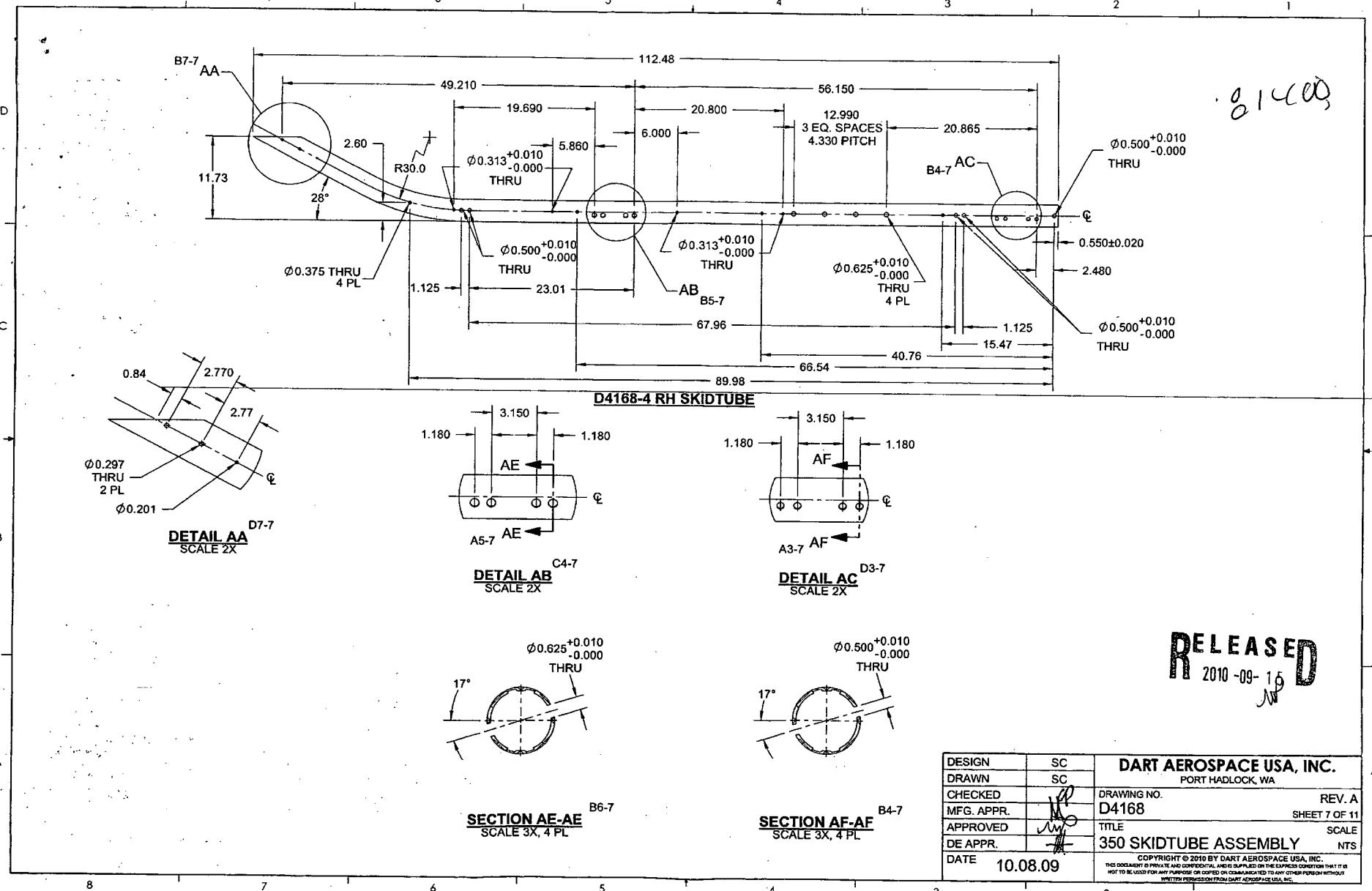
DESIGN	SC	DART AEROSPACE USA, INC.		
DRAWN	SC	PORT HADLOCK, WA		
CHECKED	<i>[initials]</i>	DRAWING NO.	REV. A	
MFG. APPR.	<i>[initials]</i>	D4168	SHEET 6 OF 11	
APPROVED	<i>[initials]</i>	TITLE	SCALE	
DE APPR.	<i>[initials]</i>	350 SKIDTUBE ASSEMBLY	NTS	
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W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASED
2010-09-15
M

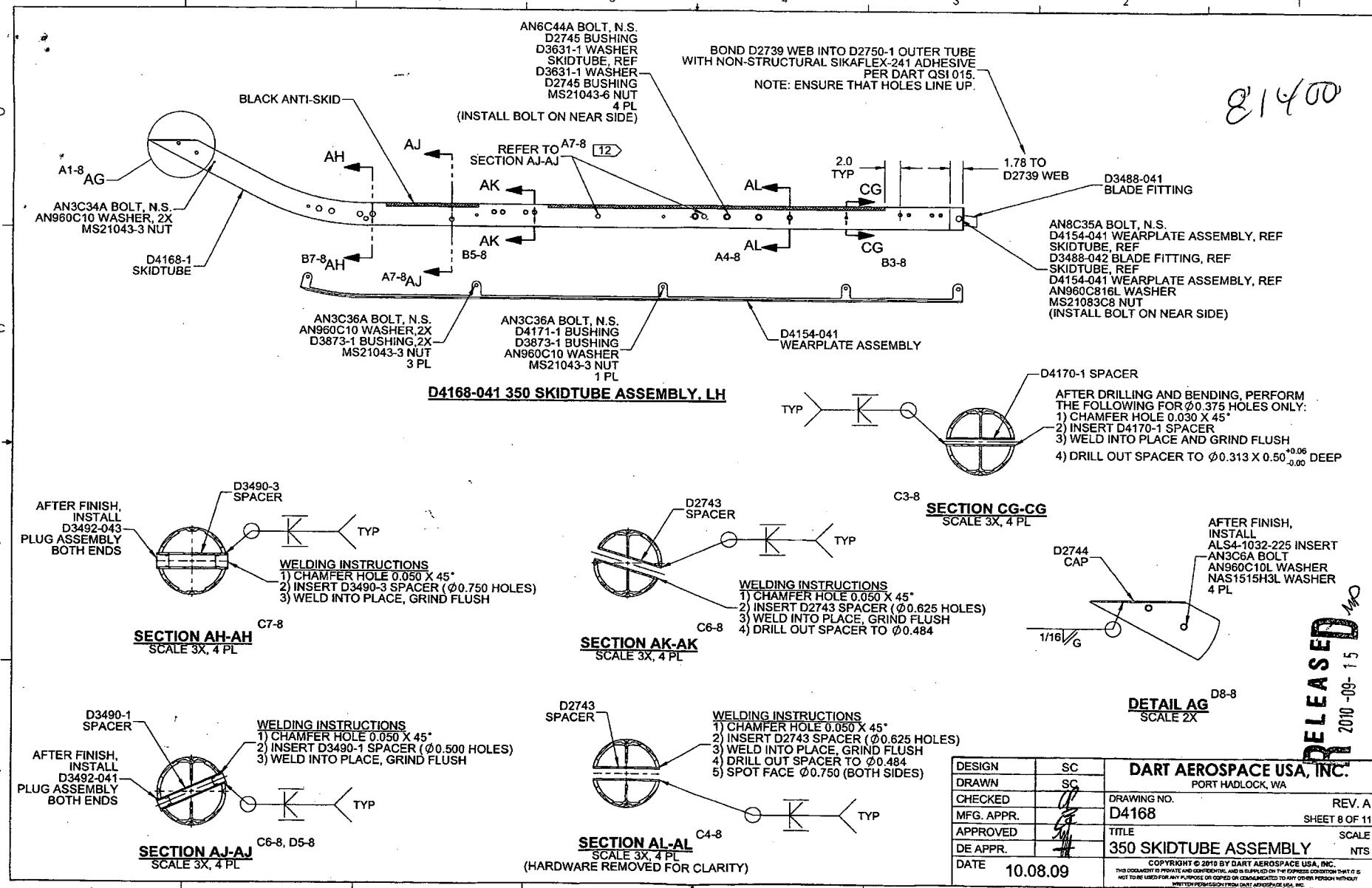
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DRAWN	SC			
CHECKED	<i>100</i>	DRAWING NO.	REV. A	
MFG. APPR.	<i>AM</i>	D4168	SHEET 7 OF 11	
APPROVED	<i>AM</i>	TITLE	SCALE	
DE APPR.	AM	350 SKIDTUBE ASSEMBLY	NTS	
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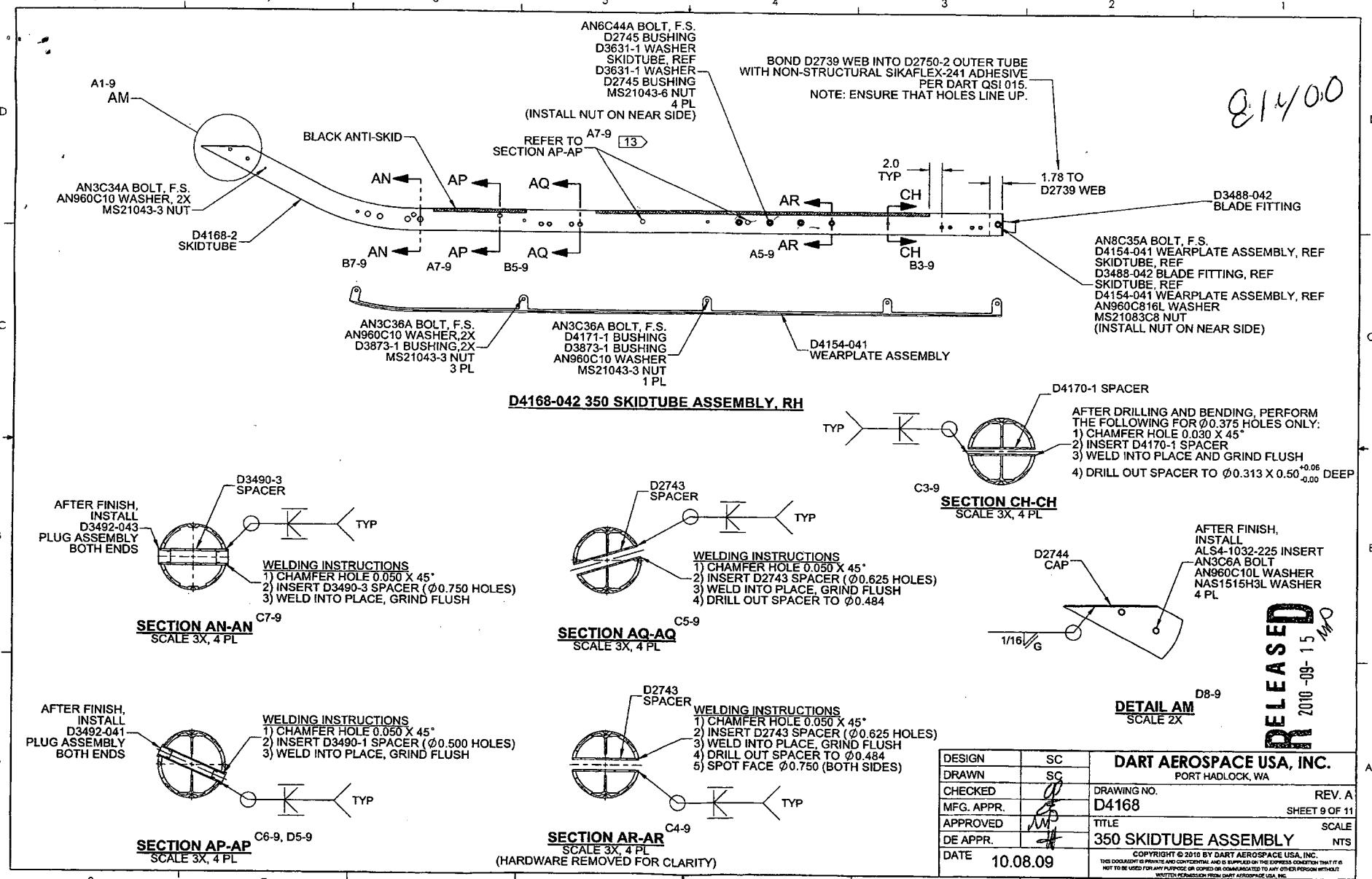
DART AEROSPACE USA, INC.TM
PORT HADLOCK, WA
WING NO. REV. A
168 SHEET 8 OF 11
SKIDTUBE ASSEMBLY SCALE
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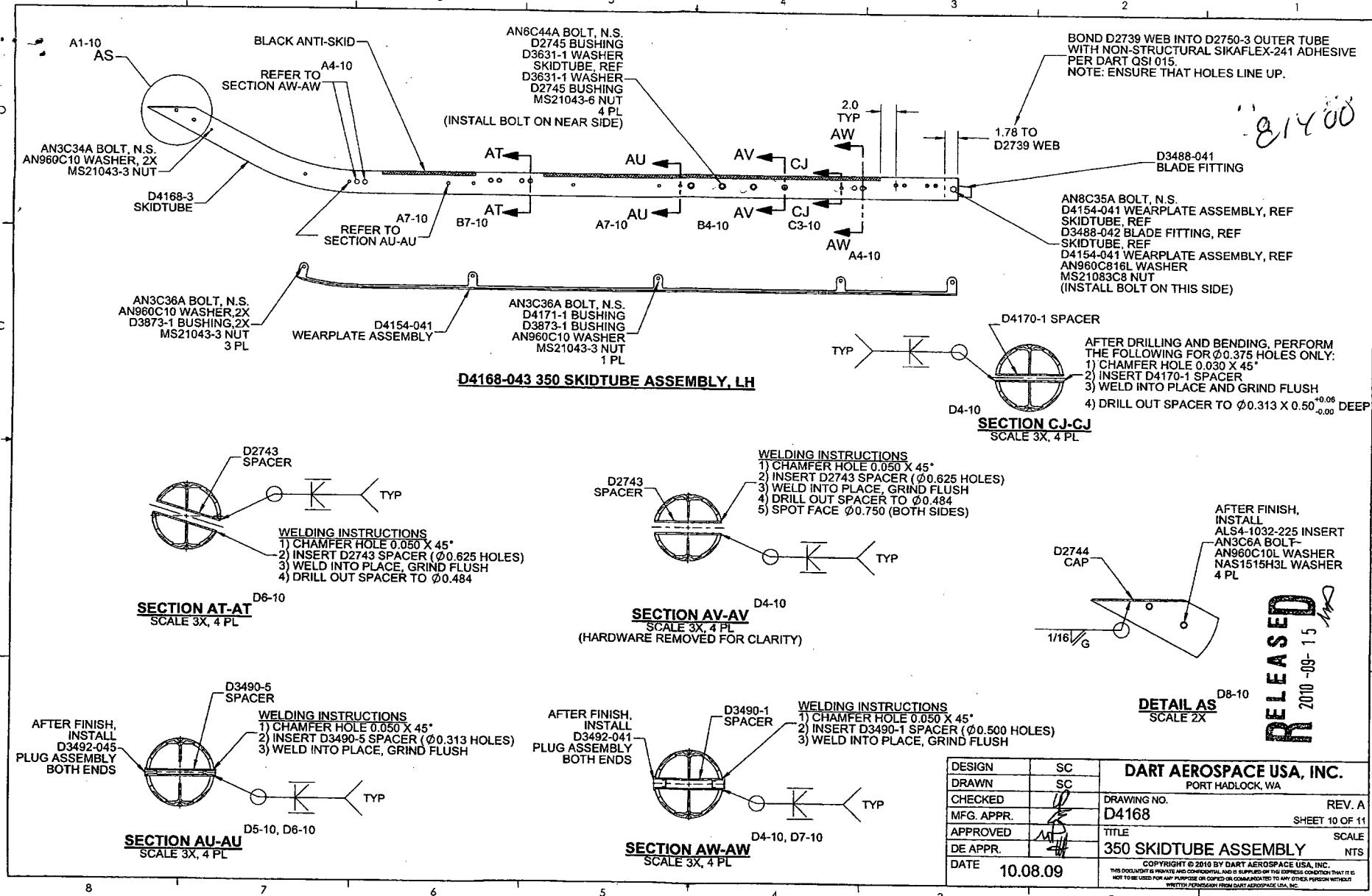


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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 289

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 81400
Part number: A350-636-016
Description: Skidhouse
Welding Process: Tig[✓] Mig[]
Base material: Alum
Current: AC[✓] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[✓] fail[]
Penetration: pass[✓] fail[]

UNACCEPTABLE

Cracks: pass[✓] fail[]
Undercut: pass[✓] fail[]
Pin holes: pass[✓] fail[]
Overlap (cold lap): pass[✓] fail[]
Porosity (surface): pass[✓] fail[]
Coloration: pass[✓] fail[]

Qualifier David Lewis Date of Test Coupon 12.04.17

Welder Barclay Elliott Date of Test Coupon 12.04.17

The above named individual is qualified in accordance with AWS D17.1.2001 to weld